Before the
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In the Matter of	)	
	)	IB Docket No. 05-220
Comments Concerning Use of	)	
Portions of Returned 2 GHz	)	
Mobile Satellite Service Frequencies	)	

REPLY COMMENTS OF INMARSAT VENTURES LIMITED

Inmarsat Ventures Limited ("Inmarsat") replies to the comments filed in response to the June 29, 2005 *Public Notice* in this proceeding.[1]

The comments filed by a number of other parties reinforce many themes in Inmarsat's comments: (i) there is no justification for awarding more MSS spectrum to TMI and ICO; (ii) the 2 GHz band is essential to the MSS industry, and there is no basis to reverse the Commission's determination just last year to retain for MSS purposes 40 MHz of 2 GHz spectrum currently designated for MSS; and (iii) the issues raised in this docket are inextricably linked with those raised in companion IB Docket No. 05-221[2] and should be addressed together, on an expedited basis, rather than handled in a piecemeal fashion.[3] Moreover, Globalstar validates Inmarsat's recommendation that the Commission provide for meaningful MSS

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1 *Comments Concerning Use of Portions of Returned 2 GHz Mobile Satellite Service Frequencies*, IB Docket No. 05-220 (rel. June 29, 2005).

2 *Comments Concerning Use of Portions of Returned 2 GHz Mobile Satellite Service Frequencies*, IB Docket No. 05-221 (rel. June 29, 2005).

3 *See Comments of CTIA – The Wireless Association*, IB Docket No. 05-220, at 3-5 (July 13, 2005); *Comments of T-Mobile, Inc.*, IB Docket No. 05-220, at 4-7 (July 13, 2005); *Comments of Sirius Satellite Radio, Inc.*, IB Docket No. 05-220, at 3-5 (July 13, 2005).

competition in the 2 GHz band by ensuring that adequate 2 GHz spectrum remains available for licensing to at least three MSS providers in the band.[4]

Below, Inmarsat focuses on two aspects of the comments filed in this proceeding: (i) the specious arguments advanced by wireless interests that the 2 GHz band is not needed by the MSS industry, and instead should be reallocated and auctioned for terrestrial purposes; and (ii) the continued absence of a record basis for awarding more MSS spectrum to TMI and ICO.

I. THE 2 GHZ BAND REMAINS VITAL TO THE SATELLITE INDUSTRY

In addition to Inmarsat, three other satellite companies have affirmed the critical importance of the 2 GHz band to the satellite industry.[5] For example, Globalstar explains why access to the 2 GHz band for MSS is essential to the expansion and enhancement of current MSS service offerings. Moreover, ICO aptly explains the essential role that MSS plays in supporting homeland security, and communications among first responders and other emergency personnel.

As the Inmarsat, Sirius, and Globalstar comments bear out, T-Mobile is simply wrong that the history of MSS in the 2 GHz band "draws into question the viability of any 2 GHz MSS system."[6] As Inmarsat demonstrated in its Comments, the potential for MSS systems to respond to industry and technological changes in the wireless broadband context — bringing forth new and innovative services to the American public — is greater than ever. Three companies with experience in building, launching and operating satellite systems — Inmarsat, Globalstar, and Sirius — have confirmed their interest in 2 GHz satellite systems. In particular,

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4 *See Comments of Globalstar LLC*, IB Docket No. 05-220, at 7-8 (July 13, 2005).

5 *See Comments of Sirius Satellite Radio, Inc.*, IB Docket No. 05-220, at 1 (July 13, 2005); *Comments of Globalstar LLC*, IB Docket No. 05-220, at 6 (July 13, 2005); *Comments of ICO Satellite Services G.P.*, IB Docket No. 05-220, at 2 (July 13, 2005).

6 *Comments of T-Mobile, Inc.*, IB Docket No. 05-220, at 3 (July 13, 2005).

Inmarsat, a leading global MSS operator with a demonstrated track record of innovation and investment in next-generation services, has explained that it stands ready to use the 2 GHz band to deploy an expansion MSS system that will provide much-needed broadband service to all of the U.S. by the end of the decade, as long as the Commission makes suitable provisions in this proceeding for additional entry by Inmarsat in the 2 GHz band.

Thus, CTIA and T-Mobile's plea that the Commission reallocate to terrestrial use 24 MHz of 2 GHz MSS spectrum as "not needed" by the satellite industry[7] is undermined by the clear expressions of interest in the 2 GHz band for new satellite systems. Moreover, neither CTIA nor T-Mobile provides any good reason why the Commission should reverse a decision it made just last year, when it affirmed its prior decision to retain 40 MHz of spectrum to support the continued development of MSS at 2 GHz, and expressly rejected CTIA's plea to reclaim more of the 2 GHz band for terrestrial purposes.[8]

In light of the many essential services that next-generation MSS systems are poised to provide in the near future, CTIA and T-Mobile's focus on the past failures of Boeing, Celsat, and Iridium is a red herring. As Inmarsat explained in its comments, the business plan those entities once had, to provide MSS-based *telephony-like* services to handheld devices in competition with then-regional PCS and cellular services, was overtaken by events.[9] In contrast, the potential growth of MSS in the 2 GHz band to provide *broadband services* is illustrated by

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7 *See Comments of CTIA – The Wireless Association*, IB Docket No. 05-220, at 4-5 (July 13, 2005); *Comments of T-Mobile, Inc.*, IB Docket No. 05-220, at 7-9 (July 13, 2005).

8 *See Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Service, Including Third Generation Wireless Systems*, 19 FCC Rcd 20720, 20760-61 ¶¶ 93, 96 (2004).

9 *See Comments of Inmarsat Ventures Limited*, IB Docket No. 05-220, at 2-5 (July 13, 2005).

(i) the spectrum congestion that soon will develop in other MSS bands,[10] and (ii) the explosive demand for bandwidth-intensive MSS *data* services, as evidenced by Inmarsat's experience over the past six years, during which its revenues from MSS data services have grown at a compound rate of more than 15 percent.[11]

Thus, contrary to what T-Mobile would lead the Commission to believe, 2 GHz MSS systems, such as the one Inmarsat described in its Comments, not only are viable, but also are essential to the continued growth and expansion of MSS. To this end, future 2 GHz MSS broadband systems will figure prominently in the technologies that will serve the types of important public policy goals articulated in the Commission's recently-released Strategic Plan: providing more choices for consumers, fostering competition, facilitating the ubiquitous deployment of broadband services, using the limited spectrum resource more intensively, and providing effective communications solutions in emergency situations.[12]

For these reasons, and those expressed in Inmarsat's Comments, it is essential that the current 20 + 20 GHz MSS allocation at 2 GHz be retained to support the continued deployment of international satellite services,[13] whether on a regional or a global basis.

Based on a lack of interest that CTIA and T-Mobile wrongly perceive in using the 2 GHz band for MSS, and the stated desire of TMI and ICO to acquire more spectrum, CTIA and T-Mobile urge that the Commission reallocate the band for terrestrial purposes, and then auction

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10 *See id*. at 10-11.

11 *See id.* at 11.

12 *See* Federal Communications Commission, *Draft Strategic Plan* (rel. July 5, 2005).

13 The Commission has long defined MSS as an international satellite service. *See In the Matter of Amendment to the Commission's Regulatory Policies Governing Domestic Fixed Satellites and Separate International Satellite Systems*, 11 FCC Rcd 2429, 2440 ¶¶ 71-73 (1996).

it for that purpose.[14] Inmarsat agrees that the Commission should not increase TMI's and ICO's MSS spectrum assignments. But as demonstrated above, CTIA and T-Mobile are simply wrong when they assert that no one else has good satellite-based uses for the 2 GHz band, and that the band therefore should be reallocated and auctioned for terrestrial service.

Nor is there any basis to revisit the argument that ATC rights at 2 GHz should be auctioned. Earlier this year, the Commission rejected, for the second time, the argument that "the decision to award terrestrial rights to 2 GHz MSS licensees without an auction" would be improper,[15] determining that doing so could cause portions of MSS spectrum to be underused in rural and remote areas, and would not solve the current problem of MSS service not being available in areas where the signal path from the spacecraft is blocked or otherwise attenuated.[16] Even apart from that decision, it bears noting that the 2 GHz spectrum currently set aside for MSS service, by definition, would be "used for the provision of international or global satellite communications services," and therefore cannot be auctioned.[17]

II. THERE IS NO BASIS FOR AWARDING MORE 2 GHZ SPECTRUM TO ICO AND TMI

As CTIA and Sirius aptly explain, neither ICO nor TMI has presented any evidence, let alone "convincing" evidence, of its respective need for additional spectrum, particularly because neither ICO nor TMI has come even close to deploying its authorized

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14 *Comments of CTIA – The Wireless Association*, IB Docket No. 05-220, at 3, 5, 17 (July 13, 2005); *Comments of T-Mobile, Inc.*, IB Docket No. 05-220, at 8-9 (July 13, 2005).

15 *In the Matter of Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Bands*, 20 FCC Rcd 4616, 4644 ¶ 76 (2005).

16 *See id.* at 4645 ¶ 77.

17 47 U.S.C. § 765f.

system.[18] The only further reasoning ICO offers in its Comments are statements concerning the importance of MSS.[19] Those statements, while true, are equally valid for everyone interested in MSS, and therefore are not even remotely probative of ICO's specific case.

Nothing in the Comments of Rydbeck Consulting or BRN Phoenix substantiates ICO's or TMI's claimed need for more 2 GHz spectrum.[20] Rydbeck Consulting and BRN Phoenix recite essentially the same truisms as TMI that "more spectrum is better" and "many developing terrestrial standards use wider bandwidth."[21] Yet neither entity explains why it is not feasible for ICO and TMI to employ the smaller-than-five megahertz carriers that are supported under current WiMax and CDMA 1xEVDO specifications,[22] or why it should be assumed that the ICO and TMI satellite networks need to use those types of terrestrial network architectures for their satellite air interfaces. As Inmarsat has explained, there is no reason that terrestrial and satellite air interfaces in a hybrid MSS/ATC network cannot be different.[23]

Nor is there any reason that TMI or ICO, instead of consuming more spectrum, could not develop an air interface *optimized for an MSS/ATC architecture* that would make more

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18 *See Comments of CTIA – The Wireless Association*, IB Docket No. 05-220, at 8-14 (July 13, 2005)

19 *See Comments of ICO Satellite Services G.P.*, IB Docket No. 05-220, at 2 (July 13, 2005).

20 *Amendment of the Commission's Space Station Licensing Rules and Policies*, 18 FCC Rcd 10760, 10788-89 ¶ 64 (2003).

21 *See* Letter from Nils Rydbeck, Rydbeck Consulting, to Marlene Dortch, Secretary, FCC, at 1-2 (July 11, 2005); Letter from Dale Branlund, BRN Phoenix, Inc., to Marlene Dortch, Secretary, FCC, at 2 (July 11, 2005).

22 *See Comments of Inmarsat Ventures Limited*, IB Docket No. 05-220, at 23 (July 13, 2005).

23 *See id.*

efficient use of the 4 + 4 MHz of 2 GHz spectrum that is already assigned to each of them. There are several examples where high bps/Hz ratios have been achieved in media with relatively narrow bandwidth, such as DSL using regular phone lines and Radio Mondiale using the standard short wave AM Radio spectrum. Moreover, faced with a need to use the limited L-band spectrum even more efficiently, Inmarsat has developed an architecture for its forthcoming BGAN service that will allow it to achieve 492 kbps in 200 KHz channels (*i.e.*, ~2.5 bps/Hz). This is a data rate far in excess of that which Inmarsat would have been able to achieve had it relied on existing technology that was not optimized for next-generation MSS systems. With the types of bps/Hz ratios represented by Inmarsat's BGAN service, TMI and ICO certainly could achieve data rates of approximately 10 mbps in each 4 MHz spectrum re-use cluster, simply using the spectrum currently assigned for their respective systems. Even higher bps/Hz ratios could be possible with other modulation and coding techniques.

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For all of the foregoing reasons, as well as those articulated in Inmarsat's comments, Inmarsat urges the Commission to ensure the opportunity for effective MSS competition at 2 GHz by: (1) reaffirming its decision to keep 40 MHz of the 2 GHz band available for MSS; (2) determining the optimal number of entities that should be authorized to provide MSS in the nascent 2 GHz band and the means for authorizing competitive entry in the band; (3) ensuring that all such authorized entities have access to an identical amount of spectrum; and, after addressing the foregoing issues, (4) evaluating the requests of TMI and ICO to increase their 2 GHz MSS spectrum assignments, taking into account their lack of progress in implementing the systems each was authorized to deploy four years ago.

In order to provide regulatory certainty and thereby allow the prompt deployment

of 2 GHz MSS to the American public, Inmarsat urges the Commission to conduct such a comprehensive evaluation on an expedited basis.

Respectfully submitted,

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July 25, 2005

TECHNICAL CERTIFICATION

I have reviewed the foregoing Reply Comments of Inmarsat Ventures Limited. The technical information contained therein is true and correct to the best of my present knowledge, information, and belief.

/s/ Marcus Vilaca
Name: Marcus Vilaca
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July 25, 2005

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on this 25th day of July 2005, the foregoing Reply Comments of Inmarsat Ventures Limited was served upon the following by placing one true and correct copy of the same with the regular U.S. Mail, postage prepaid, and addressed to:

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